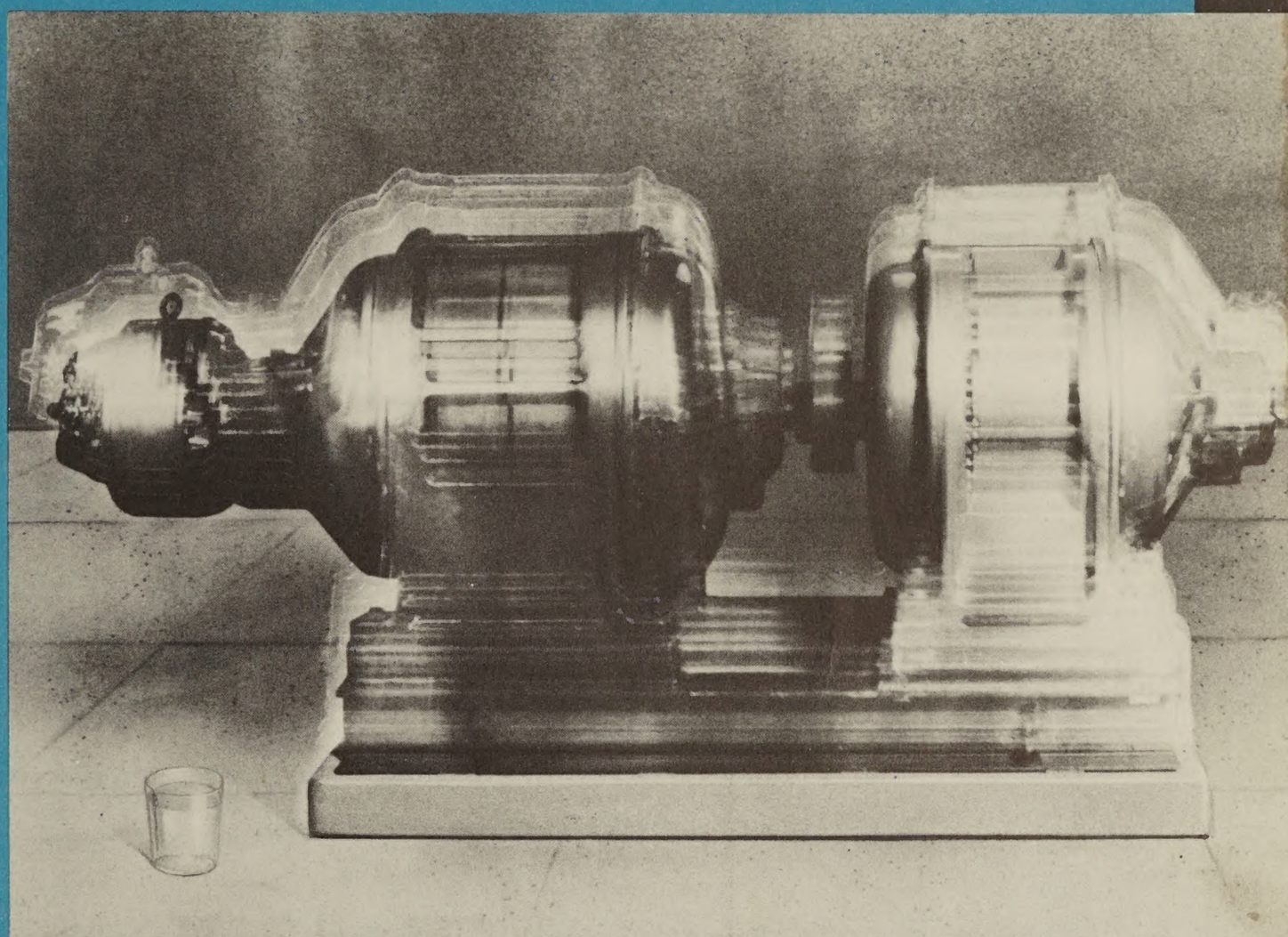
HORN

VIBRO-FOIL

NON-SHRINKING GROUTING AND PATCHING COMPOUND



A. C. HORN COMPANIES

Subsidiaries and Divisions SUN CHEMICAL CORPORATION

PLANTS IN CHICAGO, HOUSTON, LONG ISLAND CITY
LOS ANGELES, PORTLAND, ORE., SAN FRANCISCO, TORONTO

SALES OFFICES AND WAREHOUSES
THROUGHOUT UNITED STATES AND CANADA

VIBRO-FOIL is Used For:

1. Grouting Under Machinery.
2. Resurfacing concrete floor.
3. Patching concrete floors.
4. Bonding Concrete surfaces.

HORN

VIBRO-FOIL

NON-SHRINKING GROUTING AND PATCHING COMPOUND OFFERS THESE ADVANTAGES

- Produces a non-shrinking concrete or mortar of high compressive strength and maximum ductility.
- Provides an ideal base for machinery and equipment of all types.
- Produces a dense, strong grout with maximum resistance to attack and erosion by water or oils.
- Produces a dimensionally stable concrete or mortar which retains its original volume without shrinking.
- Provides a better bond between topping and base slab when used in resurfacing floors.

What it is

Vibro-Foil is an expandable compound of iron combined with hardening and dispersing agents, binders and catalysts. When mixed with mortar or concrete, it produces a ductile mass which has minimum shrinkage. The metallic aggregate also provides "give and take" qualities that absorb vibration, pounding and heavy wear.

Vibro-Foil begins to oxidize as soon as water is added, effecting controlled expansion within the mixture which counteracts inherent shrinkage. The result is a concrete of low permeability and great strength.

Vibro-Foil surfaces are water-resistant, oil-resistant and wear-resistant, without shrinkage cracks.

Use

Vibro-Foil may be used for a variety of purposes such as concrete floor patching, concrete floor resurfacing, bonding concrete surfaces, grouting of machinery and tile grouting. Use it wherever the non-shrink, ductile and improved wearing properties imparted by the Vibro-Foil aggregate are required.

Physical Properties

CONTRACTION:

In a Vibro-Foil mix, initial contraction takes place in the first day, after which expansion starts. Since Vibro-Foil reduces the water requirement for any desired consistency, it reduces the initial shrinkage as much as 80% in a slightly wet mix and as much as 66% in a slightly dry mix.

EXPANSION:

The exclusive property of dimensional stability imparted by Vibro-Foil is due to the controlled rate of expansion. After 28 days with a slightly wet, plain mortar there is a contraction of small proportions. The use of Vibro-Foil will balance the initial contraction or shrinkage almost exactly and to further effect a safety factor, it produces a slight expansion.

COMPRESSIVE STRENGTH:

After three days, the compressive strength of Vibro-Foil mortar is up to 300% higher than ordinary mortar with a flow of 110%. At 28 days, the strength of Vibro-Foil mortar is up to 59% higher.

WORKABILITY:

Ease of placing is of considerable importance for economy of labor, quality of concrete and quality of finish. Vibro-Foil has a plasticity and cohesiveness that gives the concrete much better workability than ordinary mixes.

FASTER SET:

Vibro-Foil speeds up the initial and final set of the mix. Normally the concrete can be put into use 48-72 hours after placing.

APPLICATION INSTRUCTIONS FOR

VIBRO-FOIL

GROUTING COMPOUND

STANDARD OR READY-MIXED

Patching concrete floors, ramps, platforms, corridors, loading docks, etc.

1. Chip out the old concrete to expose a clean surface. Where holes are shallow, cut out to a depth of at least one inch. Where grease or oil are present, cut deep enough to remove all traces of the stain to insure a good bond for the Vibro-Foil patch. Cut all edges square and perpendicular.

2. Sweep away all loose concrete chips and dust.

3. Be certain to saturate the surface and edges of the hole with water over a period of four to six hours, then remove any excess pools of water in the hollows.

4. While the concrete is damp, apply a slush coat of a mixture of equal parts, by weight, of Vibro-Foil Standard and cement. Approximately 30 pounds of the mixture is required for each 100 sq. ft. Thin the mixture with water to a brushing consistency and, with a stiff bristle brush, work the grout well into the rough concrete and edges. This slush coat must be applied just before installing the Vibro-Foil patch and must not be allowed to dry out.

5. Prepare the Vibro-Foil Standard patching mix as follows: By volume — ½ part Vibro-Foil — 2 parts cement — 3 parts sand — 4½ parts ¼″ gravel. (For a standard mix, use the following proportions — 50 lbs. Vibro-Foil, 2 bags cement; 3 cu. ft. sand; 4½ cu. ft. ¼″ gravel.) Add just enough water to make a stiff topping mix, approximately 2″ slump. Use about 4½ to 5 gallons of water per sack of cement including the moisture in the aggregates.

6. Place the mix in the hole and tamp well with a steel grid tamp. Screed off the excess mix level with the surrounding floor surfaces.

7. Wood float and steel trowel. Do not over-level or work the surface excessively.

8. After the surface has set and is sufficiently hard to ring under the trowel, give the surface a final burnishing steel trowelling to a hard dense finish free of all voids.

9. The surface shall receive a spray application of Horncure Concrete Curing Compound immediately after the trowelling is completed and the wet sheen of surface moisture has disappeared. Curing by means of damp burlap, straw or paper is also permissible. The cured patch will be ready for normal traffic in 48-72 hours.

Resurfacing old concrete floors

1. Chip and roughen the surface of the old floor to expose clean concrete down to a solid surface. Cut out the old floor at least one inch below existing doorway saddles, machine bases and existing grade levels which must be maintained. Cut out deep enough to remove all traces of grease, oil, acid and disintegrating concrete. Cut all edges square and perpendicular.

2. Sweep clean of all loose concrete particles and dust.

3. VERY IMPORTANT: Saturate the surface and edges with water over a period of four to six hours, then remove any excess pools of water from hollows.

4. Proceed as in step 4 under "Patching." The slush coat must be applied just ahead of the Vibro-Foil topping mix and must not be allowed to dry out.

5. Prepare the Vibro-Foil Standard topping mix using the same proportions as described under step 5 of "Patching" (½ part Vibro-Foil — 2 parts cement — 3 parts sand — 4½ parts ¼" gravel).

6. Place the mix over the damp slush bond coat and tamp with a steel grid tamp.

7. Screed to floor level. Wood float and steel trowel. Do not overtrowel or work the surface excessively.

8. Proceed as in step 8 and 9 under "Patching."

9. The cured floor will be ready for normal traffic in 48-72 hours.

Topping new concrete floors

1. Install the base concrete up to within one inch of the finished floor level.

2. Whenever possible place the Vibro-Foil topping before the base concrete has taken its final set. In this case proceed immediately with steps 5 to 9 inclusive as noted under "Resurfacing Old Concrete Floors" with the exception that the slush bond coat is unnecessary.

2A. If the base concrete has become hard and set, proceed with steps 2 to 9 inclusive as noted under "Resurfacing Old Concrete Floors."

Grouting structural joints at floor and wall lines

Place a chamfered board along the wall at the proposed floor level, where the joint is to be formed. Pour the concrete and finish in the usual manner. Pull out the boards after the concrete has thoroughly cured and shrinkage has taken place. Scrub a thin slush bond coat consisting of 5 lbs. Vibro-Foil Standard; 1 sack cement and ¾ cu. ft. sand. Work and tamp mortar firmly in place and finish to floor level. When the surface moisture has disappeared, apply Horncure Concrete Curing Compound or utilize another accepted curing medium for 7 days.

VIBRO-FOIL FOR GROUTING HEAVY MACHINERY AND FOR SETTING HEAVY EQUIPMENT

Speed in placement

It is important to place grout quickly and continuously to avoid all effects of overworking, resulting in segregation, bleeding and breaking down initial set. Under no circumstances should the grout be re-tempered by adding additional water after it has taken its initial set.

Proper grouting procedure

1. Have all necessary tools and materials such as concrete or mortar mixer, hoe, shovels, pails to carry grout, water pails and Vibro-Foil as near to the machinery to be grouted as possible. The grouting should be continuous once it has started. Do not mix more grout at one time than can be rodded and placed in a period of 20 minutes. Add water according to desired strength and flowability.

2. Forms should be built of strong enough materials securely anchored and shored to completely confine and stand the pressure of grout under working and rodding conditions.

3. Caulking junctures of the form with a mix of equal parts of cement and sand previous to placing the grout is always very helpful.

4. Remove waste material and water from anchor bolt holes. All oil, grease and paint in contact with grout should be thoroughly removed from base plates before grouting.

5. Clean off slab of foundation with liberal quantities of water. If oil is present, use a strong, hot solution of Horn Maintenex or strong caustics to help clean slab. Slab should present a roughened condition for good bond with grout. Slab should be moist to assure easy flow of grout and prevent its too rapid drying out. However, avoid placing grout while excess water is present on the foundation slab.

6. Adequate clearance between forms and bedplate for working grout is highly important.

7. It is not necessary to remove shims or loosen leveling screws with Vibro-Foil.

8. Half inch to inch link chains (pump chain) placed under equipment (with wire attached to the ends for wrapping around anchor bolts) will greatly assist in working out air pockets and compacting the grout.

9. Whenever possible, grout should be poured from one end or side only to avoid excessive air-entrapment and to be assured of compactness of grout.

10. Machines operating nearby should be shut down — at least during initial setting period of the new grout, to avoid possible fracture.

11. After the equipment has been put in operation it is good maintenance practice and recommended by equipment manufacturers that nuts on anchor bolts be kept tight. A torque wrench can be used for tightening nuts to uniform tension.

VIBRO-FOIL READY-MIXED
IS ALSO AVAILABLE

Vibro-Foil Ready-Mixed is an iron aggregate grouting material, with all ingredients tested, proportioned, combined and packaged at the factory, delivered to the job site ready to use with no further additions.

It consists of finely divided and graded mixtures of active iron powders, acceleration promoters, cement dispersing agents, lime reactive plasticizing agents, fine aggregate and Portland cement combined in the correct proportion at the factory. It is packaged in the new Horn "double bag," consisting of a multi-wall, moisture-resistant outer bag with a separate Polyethylene inner liner, which protects the contents from moisture and insures its freshness at the job site.

For additional information on this product contact your local Horn Representative or Dealer or write to the Horn Sales Office nearest you.

USE ONLY NORMAL PORTLAND CEMENT WITH VIBRO-FOIL

TYPE OF WORK	MIX DESIGN — BY WEIGHT				Mix Consistency	ESTIMATING DATA			
	Vibro-Foil	Normal Cement	Sand	¼"-⅜" Gravel or Stone		Vibro-Foil	Cement Sacks	★ Sand Lbs.	¼"-⅜" Gravel Cu. Ft.
						For 1 Cu. Yd. Compacted Mortar			
Grouting Machinery, Bridge Seats, etc. For 1 Inch Clearance or Less	1	1	1	—	Plastic to Flowable	1265	12.6	1260	—
Grouting Machinery Over 1 Inch Clearance	1	1	1	1.5	Plastic to Flowable	870	8.7	870	13.1
Grouting Anchor Bolts	1	1	1	—	Plastic	1265	12.6	1260	—
Grouting Building Columns	1	1	1	—	Stiff	1265	12.6	1260	—
Grouting Steel Floor Grids	¼	1	2	—	Plastic	265	10.6	2120	—
Grouting Steel Sash and Jambs	1	2	3	—	Plastic	580	11.6	1750	—
Grouting Around Pipes Through Walls	1	2	3	—	Plastic	580	11.6	1750	—
Caulking Bell and Spigot Pipe	1	2	3	—	Plastic	580	11.6	1750	—
Grouting Rubber Gaskets for Flexible Pipe Joints	1	1	(Fine) 1	—	Flowable	1265	12.6	1260	—
Filling Seams and Cracks (Not Over 4 Inches Wide and 1 Inch Deep)	1	2	3	—	Plastic	580	11.6	1750	—
Filling Large Holes and Cavities Over 4 Inches Wide	*15%	1	1	1.5	Stiff	145	10.9	1090	16.3
Tuckpointing Masonry	1	2	3	—	Stiff	580	11.6	1750	—
Caulking Floor Joints — Seams Between Floor and Wall	1	2	3	—	Stiff	580	11.6	1750	—
Setting Floor Brick, Dairy Tile, Quarry Tile — Bedding Mix	—	1	3	—	Mealy	Thickness of Bed, Size and Depth of Tile, and Width of Joint Must be Known. Consult Literature for Charts on Estimating.			
Setting Floor Brick, Dairy Tile, Quarry Tile — Bond	—	1	—	—	No Water				
Setting Floor Brick, Dairy Tile, Quarry Tile — Joint Grout	¼	1	—	—	Creamy				
Setting Floor Brick, Dairy Tile, Quarry Tile — Dryer Mix	¼	1	1	—	No Water				
						For 100 Sq. Ft. 1 Inch Thick			
Patching Floors, Ramps, Platforms (Holes Less Than 1 Foot in Diameter)	1	2	3	—	Plastic	185	3.7	560	—
Patching Holes Over 1 Foot in Diameter	1	4	6	9	Plastic	60	2.4	350	5.3
Plaster-Coating Spalled Areas not Over 1 Inch in Depth	¼	1	2	—	Plastic	85	3.4	680	—
Gunned Mortar Application	*15%	1	3	—	Gunned	40	2.9	880	—
Topping Mix for Resurfacing Floors	*20%	1	1.5	1.5	Stiff	55	2.8	420	4.2
						For 100 Sq. Ft. ½ Inch Thick			
Plastercoat for Foundation Walls (Inside or Outside) — Bond	1	1	—	—	Creamy	8	7.5 Lbs.	—	—
Plastercoat for Foundation Walls (Inside or Outside) — Plaster	¼	1	3	—	Plastic	35	1.4 Sks.	520	—
						For 100 Sq. Ft. of Prepared Surface			
Bonding New Concrete to Old (Slush Bond Coat)	1	1	—	—	Creamy	16	15 Lbs.	—	—
Brush Coat Foundation Treatment — First and Third Coats	1	—	—	—	Brushable	10	—	—	—
Brush Coat Foundation Treatment — Second and Fourth Coats	1	3	1	—	Creamy	5	15 Lbs.	5	—

★ 100 Lbs. of Dry Sand is Approximately 1 Cu. Ft.

*Percent By Weight of Cement.

To all the Above Mixes, After Turning Over Enough Times to Insure Even Distribution of Aggregate and Cement, Add only Enough Clean Water to make Mix Placeable; Avoid an Excess of Water.

A. C. HORN COMPANIES

Subsidiaries & Divisions

Sun Chemical Corporation

PLANTS IN CHICAGO, HOUSTON, LONG ISLAND CITY
LOS ANGELES, PORTLAND, ORE., SAN FRANCISCO, TORONTO

SALES OFFICES AND WAREHOUSES
THROUGHOUT UNITED STATES AND CANADA

Form 6423

Printed in U.S.A.

10M-58

AVERY
CLASSICS
AT
1360
H78
196-?